DISASTER RESPONSE AND YOUR SAFETY

A Guide To Providing Assistance To Others While Protecting Your Own Health and Safety

State of Alabama
Finance Department
Division of Risk Management

Introduction

When called upon to provide assistance during a natural disaster or other emergency, you are offering your time, effort, and expertise toward helping others in their time of need. Dangerous situations can be encountered while you are assisting people. This guide is a tool to prepare you on what you might expect to see, how to identify potential hazards, and avoid incidents which may put you at risk of injury.

The following three actions will help to protect yourself and others from injury during an emergency:

Preparing. This is where most of your efforts should be focused. Although we all have the tendency to want to jump in and help in situations such as this, we really need to prepare ourselves mentally, emotionally, and physically. Just like you need a set of plans to build a deck on the back of your house, complete with a list of materials and steps, you also need a plan to assist others in times of emergency.

Responding to the Emergency. Your swift, logical, effective response to emergencies will be what victims see. In order to be effective and restore some order to where there once was chaos, you must be prepared to respond in an intelligent manner.

Learning from Experience You will see a lot of things, meet many people, and become involved in a wide variety of situations...all on your first day. Take all of it in, what you saw, heard, felt, smelled, etc. and remember what your impressions were. All the while you were valuating situations to ensure your personal safety as well as those around you. Learn from your mistakes as well as your successes and consistently apply safety to everything you do.

Be sure to read this guide cover-to-cover before responding to an emergency. Although you may not think you will encounter all the things covered in this guide---you just might.

Preparing

Responding to an emergency or post-emergency situation, requires physical and mental preparation. Both are very important in making sure you protect your own safety.

You need to prepare yourself mentally for what you might encounter. Either in person or over the phone, you will likely deal with people who have suffered some sort of loss in the emergency. Being prepared mentally will help you better assist these people while still maintaining some compassion for their situation.

Additionally, you will likely be working with other volunteers and emergency responders. Your ability to work with others and your ability to maintain good communication will be key to the success of your service. Depending on the emergency, there may be periods of organizational disorder or even chaos. Everyone involved needs to be patient while order is being restored. There may be some frustration on the part of other volunteers, emergency responders, and even yourself, but patience and understanding can help you provide much needed assistance to the victims of the area.

Physical preparedness involves knowing what equipment to bring, what services you will provide, and what you are capable of doing. We can often reduce the likelihood of injury if we just stop a second and think of some task is outside our physical capabilities. For example, if asked to volunteer to help unload 50 pound bags of ice from the back of a truck and you know that you are only comfortable lifting 25 pounds, then either assist by doing another task other than lifting or get someone to help you lift half of each bag.

In preparing for on-site assistance, you will want to bring items with you to make your stay as comfortable and safe as possible. The following is a list of items that you may wish to bring:

- Valid driver's license
- Easy-care clothing

- Jacket/Sweater
- Comfortable shoes
- Rain gear or all-weather gear (jacket/pants)
- Prescriptions/medications
- Contact lens solution
- Extra pair of eyeglasses/contacts
- Washcloth and toilet articles
- Inexpensive watch
- Battery operated/wind-up alarm clock
- First aid kit
- Leisure materials (e.g., books, exercise clothes, tape deck and music)
- Flashlight and batteries
- Sunglasses
- Sun screen and insect repellant
- Visor or hat
- Bandanna or handkerchief
- Small cooler and thermos
- Supply of drinking water

Your assignment may also require specialized equipment such as a hardhat, steel tips boots, leather gloves, cellular phone, or laptop computer. You should find out ahead of time if specialized equipment will be needed.

Responding to the Emergency

Many people from the Department will be on-site providing assistance in many areas, and the tasks involved could be varied. In some areas, you may be answering telephone calls, in others you may be providing physical help or expertise in the field in which you were trained. Regardless of your background, you will need some basic skills for evaluating an emergency situation to help you identify and avoid hazardous situations.

You will need to rely on common sense combined with your senses of sight, sound, smell, touch and even taste to make decisions as to whether the area you need to work in is safe. Start by talking to people who already have been in the area or have specialized knowledge of the potential hazards of the area. They can often tell you what the conditions are, things to look out for and what specialized equipment you may need. At the site, you should conduct an informal walkthrough of the area. All this involves is walking through the area slowly and looking, listening, smelling, feeling around for things that just do not seem right. If things do not seem right, then leave the area and report to the persons in charge of emergency response. Again, your common sense will help you make a preliminary evaluation of the area.

It is important is know the potential hazards may exist in a disaster area. They include:

> insects, animals, contaminated food, contaminated drinking water, downed power lines, broken sewer lines, ruptured gas lines, dusty conditions, spilled chemicals, flooding, excessive humidity, high temperatures, damaged roadways, compromised structures, downed trees, building materials, fires, criminal activity, lightning, hail, and high winds.

The following are suggestions for avoiding exposure to environmental hazards frequently present at a disaster site:

Insect repellant will help keep you protected from the possible increase in the mosquito population after flooding. You may want to avoid wearing any fragrances or perfumes which may attract insects. Avoid walking through a swarm of insects.

After natural disasters, many household **animals** as well as wild animals will be displaced from flooded areas. Be aware that some of the animals may be infected with rabies, so special care should be used when confronting any type of animal. Avoidance is the best policy.

You probably will not have to worry about **contaminated food** if you make it a practice to eat food which has been cooked well or food that has come from a can. Be cautious of fresh fruits and vegetables from the affected area.

Drinking water can become contaminated at the main water supply, so be sure to ask a local official if the water is safe to drink. If there is any question as to the safety of the water, play it safe and drink only bottled water or water that has been transported in from uncontaminated sources. Many times, the Red Cross or the Army Reserve will bring in water tankers from other areas with fresh water.

Downed power lines can be very dangerous and should not be approached. If you see a downed power line, call the proper authorities and report the location. Always assume the lines are energized. Stay as far away from the lines as possible, especially if the ground is wet. Water conducts electricity. If you are in a vehicle and drive over or into a downed power line area, and you are able to--drive away from the area. Do not stop unless instructed to do so by a qualified person who indicates the area is safe. Do not get out of your car in the affected area. Many times, the ground may be energized, but you can remain safe if you stay inside the vehicle. Once you step outside the vehicle, you may complete the electrical circuit and become electrocuted.

In the event of a **broken sewer line**, do not attempt to go through the flooded area either by foot or in a vehicle. The water in a sewer line is contaminated with biohazardous waste products. If you should inadvertently walk through a sewer line break area, promptly wash and disinfect your clothing and skin.

Ruptured gas lines can be very dangerous. Report any ruptured gas line when you see them. Any flame or ignition source near a ruptured gas line area is extremely hazardous. Gas is purposely treated with a rotten egg odor to make it easily detectable, so if your nose tells you “no”, then get out of the area and report the leak immediately.

Dusty conditions can be dangerous because blowing sand, sawdust, etc. can cause upper respiratory problems. Blowing debris can get into your eyes, mouth and any field equipment you are using. Stay away from dusty areas unless you have the appropriate protective eyewear, facemask and/or breathing apparatus and you are trained to use it. Be sure to clean the equipment of sand or debris to ensure its safe operation.

Spilled chemicals can range from a tanker tractor trailer accident on the interstate to a small bottle breaking on the floor. Try to avoid areas that have high concentrations of fumes from chemicals. Certain fumes which may be colorless and odorless may be severely harmful (e.g. carbon monoxide). Many can be corrosive, flammable, explosive, or highly toxic. Be aware of your surroundings and look for bottles or drums of chemicals. Do not attempt to clean up a spill or touch any of the containers. Do not attempt to wash the area with water or chemical. Some chemicals are highly reactive with water. Allow trained chemical spill responders to clean and control the area.

There are many hazards associated with **flooding**, from unsanitary conditions to electrocution to strong undercurrents. Flood waters can have very strong undercurrents that can take you by surprise and drag you with it at extremely fast speeds. Any source of uncontrolled electricity coupled with a body of water can be dangerous. Just as a hair dryer in a bathtub can cause serious electrocution, so can a live wire in a puddle. Flood waters that rise, especially in rural areas can carry bacteria from area septic systems. Be sure to thoroughly sanitize any clothing or part of your body that comes in contact with flood waters.

Excessive humidity in an area for an extended period of time will not in itself cause a problem, but rather the humidity will saturate any porous materials in the area. When wallboard is left in high humidity areas, it draws in the moisture and becomes saturated. The wallboard will then lose its integrity and, under its own weight, topple or crumble. Ceiling panels may fall if they become too heavy with water. Some electrical appliances may not work in high humidity areas and may become a hazard to operate. And of course, high humidity is a prime condition for mold and mildew growth which may cause some people upper respiratory trouble.

High temperatures coupled with high humidity can be hazardous if you over-exert yourself. Heat stress can occur when you do not take in enough liquids and you overload your body with physical demands. Once heat stress has set in, it can take a long time for your body to recuperate. Serious cases can become life-threatening emergencies. When working in a hot, humid environment, be sure to drink plenty of fluids, pace yourself, and take frequent breaks- in a cool environment whenever possible.

Driving Hazards are almost always present in any disaster environment. Damaged roadways or roadways with debris strewn across them can be very hazardous. Either in a vehicle or on foot, you should look out for nails, broken glass, screws, staples and any other sharp objects that have the potential to penetrate a tire or the sole of a shoe. Also look to see if the road shoulders have been eroded or damaged in some way. Excessive damage to the roadside could be a sign of damage under the road surface. The weight of a vehicle may be enough to collapse a section of road. Potholes may become larger when an abundance of water is present. The weight and use of heavy equipment such as backhoes and bulldozers may accelerate the deterioration of roads. Bridges and drainage areas under the road may have been damaged in floods or storms so look out for signs of major cracks or holes in the road. Do not drive over or through flooded roadways. Some flood waters are deceiving in that they look shallow, but once your car is in the current, it may be pushed off the roadway or your engine may stall because of rushing water into the engine compartment.

Driving in disaster areas can be challenging. If you drive through an area affected by a storm, you still need to obey all traffic patterns, signs, and signals just as you would normally. But what happens if traffic signals aren't working or are damaged? If traffic signals are out of order, stop as you would for a four-way stop sign and proceed with caution. Remember that at a four-way stop area, the traffic traveling straight has the right-of-way before turning traffic. If you arrive at an intersection at the same time as someone else, the person to your right has the right-of-way. Do not be overly courteous in traffic situations because you may confuse other motorists and cause an accident. Just follow established rules of the road.

When driving in foggy or dusty conditions, use your low beam headlights. Fog and blowing dust and debris can get so dense that you can't see the road. If this happens, pull over until conditions are better. Signal your exit from the roadway, flash your brake lights several times so that motorists behind you are warned that you will be stopping. Get well off the road, to a safe stopping area. Stay in your car with your emergency flashers going and a seat belt on until conditions improve.

Puddles can hide hazards in the road such as potholes or debris. Drive slowly and cautiously through water. Hydroplaning occurs when a vehicle tires going at speeds over 50 miles per hour lose contact with the road surface. To avoid hydroplaning, reduce your speed to below 50 mph. When brakes get wet, they have a tendency to not work, so be aware of the possibility that your brakes may get wet. Because vehicles have different types of brake systems, refer to your vehicle owners manual for instructions on braking.

Evasive maneuvers may be necessary, so always be looking for potential hazards. Use your brakes carefully and try to swerve rather than brake because if you don't have anti-lock brakes on the car you are driving, you may skid and lose control of the car. Drive defensively.
Debris in the road should be avoided whenever possible. Small and large items in the road should be driven around rather than over. An example would be when you see a small brown paper bag in the road which may or may not have something in it. Drive around the bag rather than over it. It may end up being a bag of nails or a shattered glass bottle, both of which can damage your tires.

The street signs and road signs may be down in the area you are driving in so it is a good idea to know where you are going before you attempt to go there. Before driving, consult a road map. Familiar landmarks such as fences, markers, benches, etc. may be moved or washed away after a storm so be prepared to make your way using a map even when the street signs are down. Try and get directions to your destination assuming landmarks may not be there. "Make a right onto the third street west of the highway" is a better description than "turn right at the blue bus stop sign". Downed trees over roadways and on houses should only be moved by individuals trained to do so. Electrical wires can be intertwined and hidden in the tree and could cause electrocution.

Fires should be reported to authorities. Do not attempt to put the fire out yourself unless you are trained to do so. Fires can be of many different types and require different measures to put them out. Electrical fires are treated differently than chemical fires which are treated differently than wood fires, etc.

Criminal activity and crime may be prevalent in areas that have been affected by disaster. Always look around you and be aware of who is in the area and what activities are taking place. You may not want to carry a lot of money or jewelry. Be aware of locations where looting has been reported and avoid those areas if possible. Try to walk in pairs or groups in questionable areas. Ask site authorities whether the area is considered safe for personal security.

There are some hazards to be aware of when working in a temporary **office environment**. If you need to reach an item above your head, consider using an appropriate step ladder (see Appendix B). Do not use a chair on rollers or climb up on a desk or cabinet. These items were not designed to carry your weight.

If there are roof leaks or the floor has water on it, avoid using electric appliances because of the risk of **electric shock**. Do not depend on the fuse or circuit breaker to protect you from shock. Circuit breakers are designed to protect equipment and wiring from overheating or burning. By the time a wire heats up, you'll already be electrocuted. Look out for frayed wires on electrical appliances. Unplug the appliance or remove the appliance from use and put a sign on it indicating it is "Out of Order."

Avoid unsafe shortcuts. Use equipment only for its intended use. Don't try to make soup in a coffee maker or fry an egg on a cup warmer or dry clothes in a microwave oven or cook dinner on a hot car engine. Don't overload a wall electrical outlet with appliance plugs. Don't cut off the grounding prong (third prong) on a plug of an appliance so it will fit in a two-prong electrical outlet. Don't use a series of extension cords connected to each other. Don't use a pair of scissors as pliers or wire cutters. Don't remove machine guards from equipment and use proper protective equipment.

During **power outages**, turn off appliances and unplug equipment from the outlet so that when the power does come back on, those appliances do not become energized and hurt someone. Try to avoid using appliances or machinery during periodic power outages. The loss of power may be accompanied by power surges so the best thing to do is to turn off equipment, unplug it and wait for normal electrical service to resume. This will help to avoid injury and protect valuable equipment.

If you are injured, you need report the injury to supervisor immediately and seek medical attention.

Learn From Experience

During a natural disaster or other emergency, it is very important to develop and maintain lines of communication. Therefore, you should try to pass on what you have learned about the area and its hazards to those people who will go on-site after you leave. You can greatly increase the effectiveness of the operation by informing others of specific conditions and hazards that may affect the other relief teams.

Responding to a disaster can be a unique and very rewarding experience, as we provide urgently needed services to individuals and communities affected by disaster. Relationships are quickly formed among disaster workers, creating a sense of family as we all work towards a common goal. There is a sense of adventure as we face the unique aspects of service delivery in each disaster setting, a sense of shared pride in our ability to carry out our mission under less than desirable conditions.

Your participation in disaster relief operations is very important. Providing help in times of great need can be a rewarding and enriching experience. It does require that you may special efforts to protect the health and safety of yourself and others.

Thank you for volunteering and helping others in their time of need. Your work is appreciated!

APPENDIX A

Guidelines for Lifting

1. Plan the move before lifting; remove obstructions from your chosen pathway.
2. Test the weight of the load before lifting by pushing the load along its resting surface.
3. If the load is too heavy or bulky, use lifting or carrying aids such as hand trucks, dollies, pallet jacks and carts, or get assistance from a co-worker.
4. If assistance is required to perform a lift, coordinate and communicate your movements with those of your coworker.
5. Position your feet 6 to 12 inches apart with one foot slightly in front of the other.
6. Face the load.
7. Bend at the knees, not at the back.
8. Keep your back straight.
9. Get a firm grip on the object with your hands and fingers. Use handles when present.
10. Never lift anything if your hands are greasy or wet.
11. Wear protective gloves when lifting objects with sharp corners or jagged edges.
12. Hold objects as close to your body as possible.
13. Perform lifting movements smoothly and gradually; do not jerk the load.
14. If you must change direction while lifting or carrying the load, pivot your feet and turn your entire body. Do not twist at the waist.
15. Set down objects in the same manner as you picked them up, except in reverse.
16. Do not lift an object from the floor to a level above your waist in one motion. Set the load down on a table or bench and then adjust your grip before lifting it higher.
17. Slide materials to the end of the tailgate before attempting to lift them off of a pick-up truck. Do not lift over the walls or tailgate of the truck bed.

APPENDIX B

Guidelines for Using Ladders and Step Ladders

1. Read and follow the manufacturer's instructions label affixed to the ladder if you are unsure how to use the ladder.
2. Do not use ladders that have loose rungs, cracked or split side rails, missing rubber foot pads, or are otherwise visibly damaged.
3. Keep ladder rungs clean and free of grease. Remove buildups of material such as dirt or mud.
4. Do not stand on the top two rungs of any ladder.
5. Do not stand on a ladder that wobbles, or that leans to the left or right.
6. Do not try to "walk" a ladder by rocking it. Climb down the ladder and then move it.
7. When climbing up and down and performing work from a ladder, face the ladder and do not lean backward or sideways from the ladder.
8. Allow only one person on the ladder at a time.
9. Maintain a three-point contact by keeping both hands and one foot or both feet and one hand on the ladder at all times when climbing up or down.
10. Do not carry items in your hands while climbing up or down a ladder.
11. Look up and avoid overhead electrical power lines before raising or lowering ladders.
12. Do not try to get additional height from a ladder by placing it on a chair, table or other make-shift or unstable base.
13. Get someone to hold the foot of the ladder to prevent the ladder from slipping while you climb and do work.
14. Do not ride or climb material hoisting devices or conveyors to gain access to the roof or upper levels.